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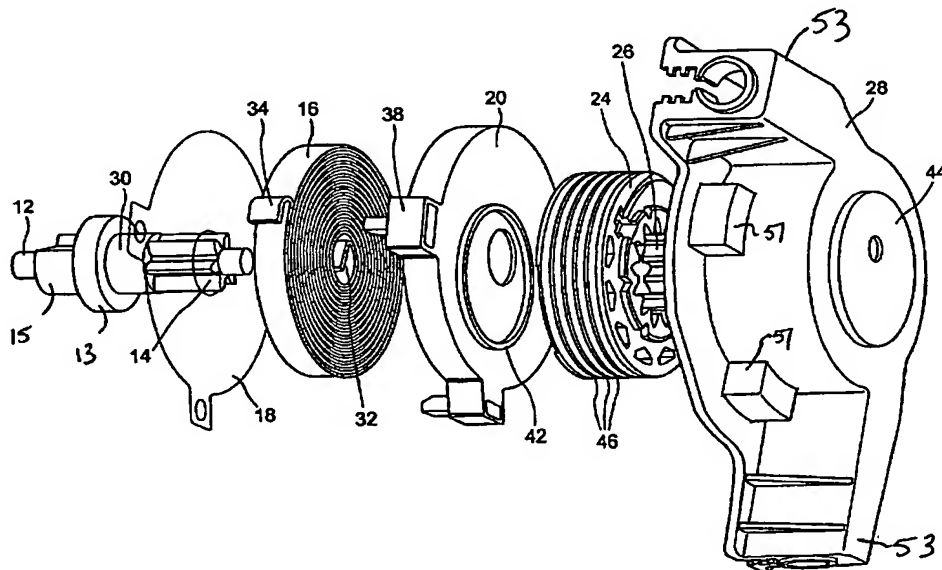
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- (74) Agents: IMAI, Jeffrey, T. et al.; Magna International Inc., 337 Magna Drive, Aurora, Ontario L4G 7K1 (CA).
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- (71) Applicant (for all designated States except US): **INTIER AUTOMOTIVE CLOSURES INC.** [CA/CA]; 521 Newpark Boulevard, Newmarket, Ontario L3Y 4X7 (CA).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **SMITH, Peter, J.** [GB/GB]; 263 Park Avenue, Newmarket, Ontario L3Y 1V3 (CA).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report

[Continued on next page]

(54) Title: WINDOW REGULATOR ASSEMBLY



(57) Abstract: A window regulator assembly including a shaft (12) having a pinion gear (14) and a counter balance spring (16) mounted on the shaft which winds or unwind as the shaft rotates. A spring housing (20) is mounted on the shaft. A cable-guiding drum (24) having an inner gear (26) is driven directly by the pinion gear, as the drum has a rotational axis that is offset from a rotational axis defined by the shaft, thus providing mechanical advantage. A casing (28) houses the spring (16), spring housing (20) and the drum (24) in abutting relationship. A guide such as a rail (42) is disposed on at least one of the spring housing and the drum for maintaining rotational alignment of the drum relative to the shaft.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(88) Date of publication of the international search report:  
6 May 2004

# PATENT COOPERATION TREATY



From the INTERNATIONAL SEARCHING AUTHORITY

## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

<b>To:</b> MAGNA INTERNATIONAL INC. Attn. Imai, Jeffrey T. 337 Magna Drive Aurora, Ontario L4G 7K1 CANADA	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Date of mailing (day/month/year)</td> <td style="width: 50%; padding: 2px;">26/02/2004</td> </tr> </table>	Date of mailing (day/month/year)	26/02/2004
Date of mailing (day/month/year)	26/02/2004		
Applicant's or agent's file reference 702669 PCT	<b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below		
International application No. PCT/CA 03/01239	International filing date (day/month/year) 20/08/2003		
Applicant  INTIER AUTOMOTIVE CLOSURES INC.			

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
 34, chemin des Colombettes  
 1211 Geneva 20, Switzerland  
 Facsimile No.: (41-22) 740.14.35

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication:

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Christine Schipflinger
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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  702669 PCT	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No.  PCT/CA 03/01239	International filing date (day/month/year)  20/08/2003	(Earliest) Priority Date (day/month/year)  20/08/2002
Applicant  INTIER AUTOMOTIVE CLOSURES INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. The figure of the drawings to be published with the abstract is Figure No.**

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/CN/01239

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E05F11/50 E05F11/48

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E05F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01 14673 A (PUENTE GARCIA RUBEN; RAUSCHER JOCHEN (ES); ANTOLIN GRUPO ING SA (E)) 1 March 2001 (2001-03-01) cited in the application -& EP 1 143 095 A (ANTOLIN GRUPO ING SA) 10 October 2001 (2001-10-10) column 2, line 29 -column 3, line 10; figures 1,2	1-3,7,9
A	US 4 421 299 A (HESS HANS-PETER) 20 December 1983 (1983-12-20) column 3, line 3 - line 6; figures 1A,1B	1-3,6

☐

Further documents are listed in the continuation of box C.

☒

Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

11 February 2004

Date of mailing of the international search report

26/02/2004

Name and mailing address of the ISA

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Authorized officer

Guillaume, G

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA/01239

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0114673	A	01-03-2001	WO 0114673 A1	01-03-2001
			AU 5423999 A	19-03-2001
			EP 1143095 A1	10-10-2001
US 4421299	A	20-12-1983	DE 3008296 A1	10-09-1981
			BR 8101172 A	08-09-1981
			JP 1442350 C	08-06-1988
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			JP 62045946 B	29-09-1987
			SE 8100729 A	05-09-1981
			SU 1080736 A3	15-03-1984
			ZA 8100928 A	31-03-1982